

Cartilage

This is a flexible connective tissue found in many areas in the bodies of humans and other animals, including the joints between bones, the rib cage, the ear, the nose, the elbow, the knee, the ankle, the bronchial tubes, and the intervertebral discs.

Cartilage is composed of specialized cells called chondroblasts and, unlike other connective tissues, cartilage does not contain blood vessels.

Cartilage is classified in three types:

1). Hyaline Cartilage

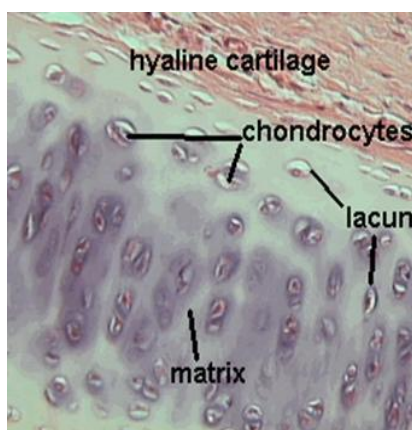
It is found in the costal cartilages of the ribs, and the cartilage of the nose, trachea, and larynx.

2). Elastic Cartilage

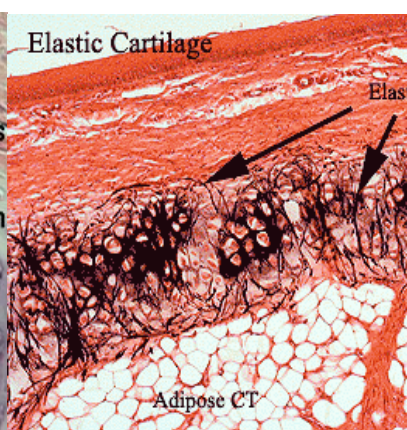
It is found in the external ear and in the epiglottis.

3). Fibrocartilage

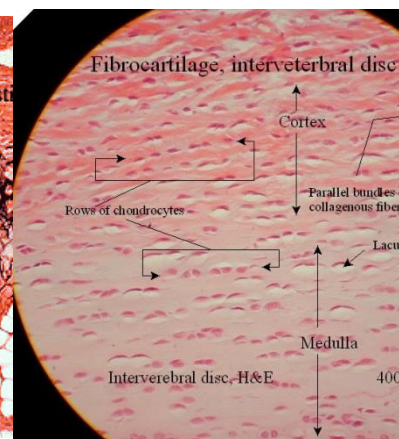
It is found in the intervertebral discs of the bony vertebrae and knee meniscus.



Hyaline Cartilage



Elastic Cartilage



Fibrocartilage

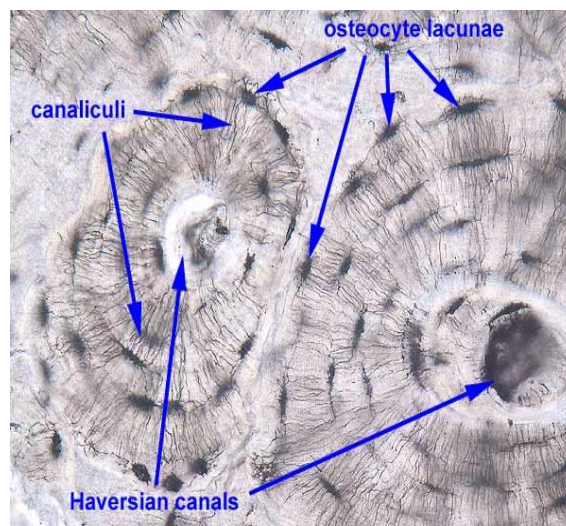
Bone

Bone can be divided into two types:

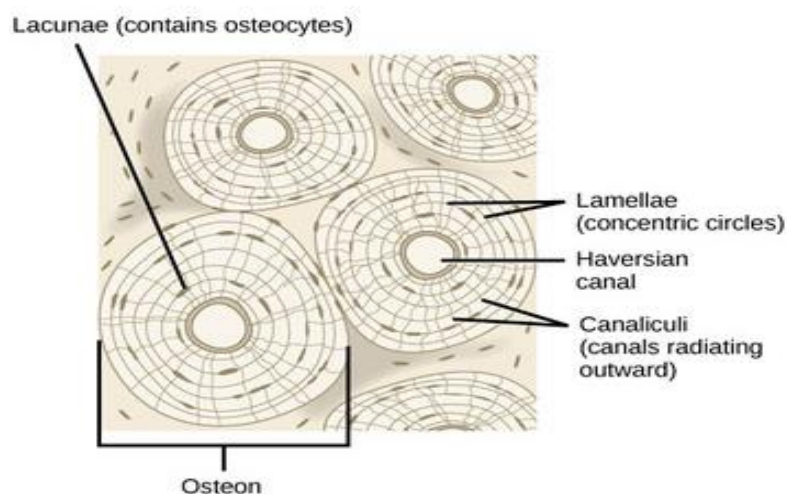
1- compact: is found in the shaft (or diaphysis) of a long bone and the surface of the flat bones

2- spongy: is found in the end (or epiphysis) of a long bone.

Compact bone is organized into subunits called osteons. A blood vessel and a nerve are found in the center of the osteon within a long opening called the Haversian canal, with radiating circles of compact bone around it known as lamellae. Small spaces between these circles are called lacunae. Between the lacunae are microchannels called canaliculi; they connect the lacunae to aid diffusion between the cells. Spongy bone is made of tiny plates called trabeculae, which serve as struts, giving the spongy bone strength.

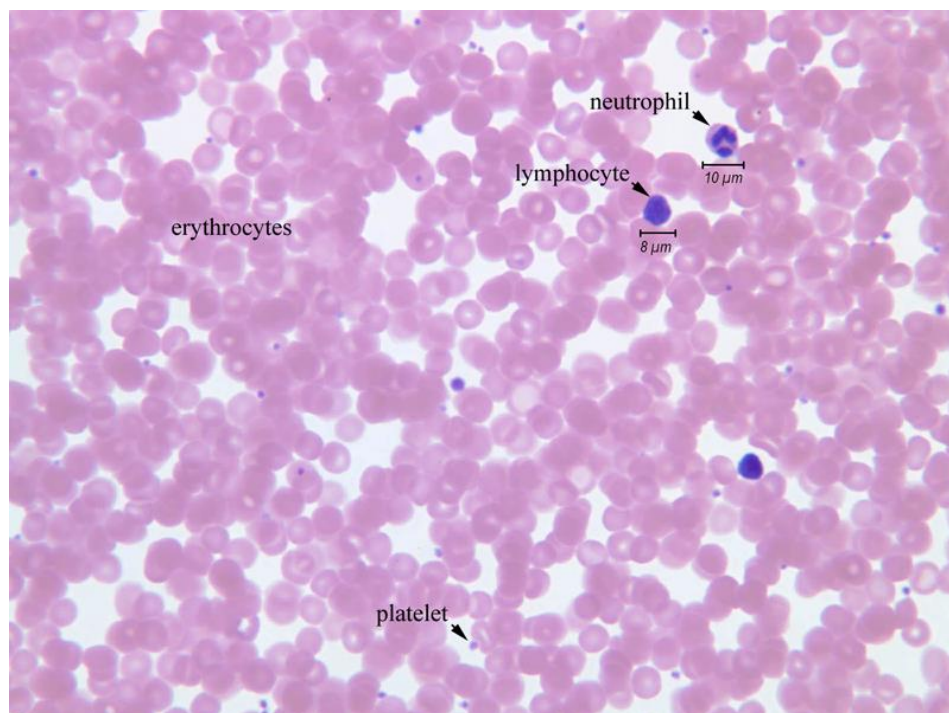
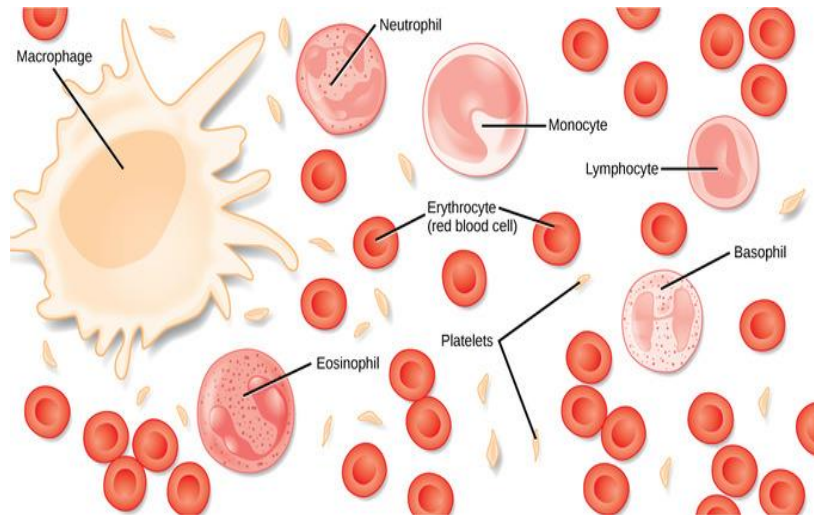


Bone



Blood

Blood is considered a connective tissue because it has a matrix. The living cell types are red blood cells, also called erythrocytes, and white blood cells, also called leukocytes. The fluid portion of whole blood, its matrix, is commonly called plasma.



Blood